(54) Title: A METHOD AND SYSTEM FOR FACILITATING THE PLAYING OF A GAME
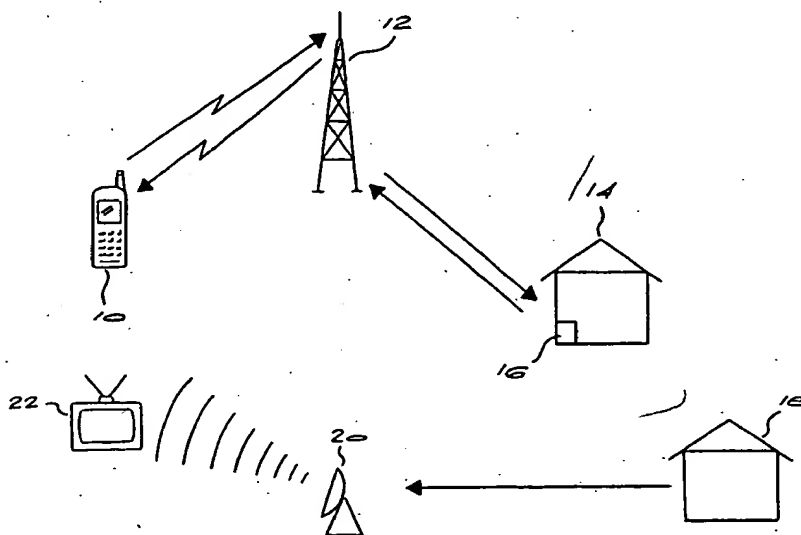
(57) Abstract: An interactive trivia game is published or broadcast to members of the public via a publication or broadcast network, for example a television or radio network. The trivia game includes a single question or a number of questions each of which has a different telephone number allocated to it which is broadcast together with the answers. A game player selects an answer by dialling the telephone number associated with that answer. The answer is routed together with the identification of the mobile telephone of the game player to an application server. The application server records the time of receipt of the answer. Once a predetermined period for answering the displayed question or questions is up, the application server determines which game player answered the question in the shortest amount of time and sends a message to the game players indicating the winner.

A METHOD AND SYSTEM FOR FACILITATING THE PLAYING OF A GAME

BACKGROUND OF THE INVENTION

THIS invention relates to a method and system for facilitating the playing of a game.

SUMMARY OF THE INVENTION

According to the invention there is provided a method of facilitating the playing of a game, the method comprising the steps of:

providing a game player with data representing at least one question and a plurality of possible answers, wherein one of the answers is the correct answer to the at least one question;

allocating a different telephone number to each of the possible answers;

prompting the game player to select an answer by dialling the telephone number allocated to that answer; and

receiving a message at a server, the message identifying the game player and the number dialled by the game player.

The method may further comprise the step of recording the time at which the message from the game player is received at the server.

Preferably, points are allocated to the game player depending on the answer selected and the amount of time taken to select the correct answer.

The question and answers may be provided to the game player over a television network to at least one television receiver.

Alternatively, the question and answers may be provided to the game player over a computer network to at least one computer.

Alternatively, the question and answers may be provided to the game player over a mobile communications network as WAP, SMS or USSD (Unstructured Supplementary Services Data) messages to at least one mobile phone.

Alternatively, the question and answers may be provided to the game player over a radio network to at least one radio receiver.

Alternatively, the question and answers may be provided to the game player over a magazine or other print media network.

The method preferably further comprises the step of identifying a mobile telephone account of the game player and debiting the telephone account of the game player for a predetermined amount to allow the participant to play the game.

The winner of a game may be notified by way of an SMS, WAP or USSD message sent to a mobile telephone of the winner.

Where the winner of a game is awarded a prize, the winner is preferably required to dial a predetermined number and enter a PIN code which they will have to use to identify themselves in order to receive the prize.

The prize is then collected from a predetermined location where the game winner presents their mobile telephone from which the winning answer or answers were entered and uses the mobile telephone to dial a predetermined number and enter said PIN number before they are given the prize.

According to the invention there is further provided a system for facilitating the playing of a game, the system comprising:

      a communications module for communicating with a telecommunications network;

      a memory device having a plurality of game questions and their answers stored thereon; and

      a processor adapted to receive a plurality of telephone calls from game players in response to a disseminated game question, wherein each one of the answers to the broadcast game question has a different telephone number associated therewith and wherein the processor is adapted to recognise which number each of the game players has dialled and thereby to determine which answer to the question they have selected.

Preferably, the processor is further adapted to record the time of receipt of the telephone calls from the game players.

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The processor may be further adapted to control the broadcasting of questions via a broadcast medium.

The processor may also be further adapted to allocate a valid time period to a question within which answers received from game players will be valid.

Preferably, the processor is further adapted to determine which game player has answered the question correctly within the shortest amount of time, and to allocate points to the game player.

The processor may then store the points allocated to game players, and add up the total points for each game player for a question or a plurality of questions, which question or plurality of questions comprise a game, after which the processor allocates a reward to the game player with the highest total number of points at the end of the game.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1   is a schematic drawing of a first embodiment of the system of the present invention;

Figure 2   is a flow chart illustrating the game flow;

Figure 3   is a schematic drawing of a second embodiment of the system of the present invention; and

Figure 4   is a schematic drawing of the design of the server of the system of the present invention.

DESCRIPTION OF EMBODIMENTS

The present invention provides a method of and system for facilitating the playing of an interactive trivia game.

Referring to Figure 1, the system of the present invention includes a mobile station 10 in the form of a mobile telephone which a game player uses to connect to a server 16 via a mobile telephone communications network 12. It will be appreciated that in practice, a plurality of mobile stations 10 will be used simultaneously by a plurality of different users.

The server 16 is located at the site of a game administrator 14. A broadcasting station 18 transmits a signal containing the gaming data using an antenna 20. A television 22, located at the site of a game player, receives the signal and displays the gaming data to the game player.

Figure 2 illustrates the flow of the game according to the present invention.

The game preparation starts with the building of a gaming profile which comprises the game contents and format. The format includes the quantity of advertisements, any additional information screens and the layout of the questions.

The advertising content and question contents are then prepared, with the questions being prepared by authorised question writers. The questions prepared are stored in an encrypted database, and the questions for a particular game are randomly selected from these encrypted questions. The game is now ready for delivery using the communication network 12.

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[handwritten annotations: "questions when TV, other (satellite) Internet" and "questions via worldwide"]

Although the broadcast medium illustrated in Figure 1 is a television network, it will be appreciated that the questions could equally be disseminated via a computer network, for example, the Internet, via radio, or via any other suitable broadcast medium.

In addition, the questions may be disseminated via a mobile communications network or via a print network, such as being published in a magazine or newspaper, for example.

Where a television network is used, the game content is typically delivered either via satellite using the vertical blanking interval in the television signal or equivalent data casting mechanism, or via a standard television signal.

A person wishing to take part in the game receives the signal using either a terrestrial aerial or a digital satellite TV decoder, depending on how the signal is broadcast. The game is then displayed on a television screen or on a personal computer with a vertical blanking interface card or an equivalent data casting interface card.

The signal may also contain a synchronised time indicator for the different user computer clocks, so that each user has an equal amount of time to play the game.

The game consists of a single question or series of questions which are shown to the game players together with a plurality of answers, one of which is correct.

Each answer has a different telephone number allocated to it which is broadcast together with the answers. These could be, for example, a telephone number with the last digit changing depending on the answer selected.

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For example, the question could be "What is the name of a fun, interactive and rewarding game?" and the answers could be "(1) golf, (2) rugby and (3) PlayTime". The number the game player will be provided with is 1902X. In order to select playtime as their answer, a game player dials 19023.

In instances where the game is well known, just that part of the answer which changes may be disseminated with the answers. For example, if the number 1902 were well known, the answers might be disseminated without this part of the number, and merely with a "1", "2", "3" or "4" etc.

Using the part of the number 1902, the telephone communications network 12 routes the call to the server 16 which manages the game.

The server 16 extracts that part of the number relating to the user's selected answer, and allocates points to the user if the answer is correct. The server 16 can also be configured to allocate more or less points depending on the time taken for the player to answer the question. Wrong answers may incur a deduction of points.

A player is given the opportunity of changing their answer during the allocated game time by simply redialling the correct answer. The system accepts the last answer received as the final answer.

At the end of the allocated time for answering a specific question, typically two minutes for TV or radio, the correct answer is indicated to the players.

It will be appreciated that a game will typically comprise a number of questions on a specific subject or on general knowledge, and a number of games are typically scheduled for a particular time. However, in some cases, the game may be comprised of only one question.

The use of a mobile telephone 10 facilitates easy identification of the game players and ease of billing. When the answer to the question is entered into the mobile telephone 10, this answer is transmitted to the server 16 together with the identity of the mobile telephone 10 on which the answer was entered. This identity is typically in the form of the Mobile Subscriber ISDN (MSISDN) which is the directory number dialled to reach the mobile telephone. Players will typically be charged an amount for each answer entered which amount is charged directly to the telephone account of the player.

The winner of a particular game is informed by means of an SMS, WAP or USSD message which is sent to their mobile telephone 10 over the communications network 12. In certain cases, the last five digits of the winner's telephone number could be broadcast and displayed to all the players of the game, for example where the game is being played via TV or radio.

Alternatively, players are given an opportunity to enter an alias to the gaming server 16 via an alternative network, for example, the Internet. The player's alias is then displayed as the game winner.

A database (not shown) associated with the server 16 stores historical game results and leader score-boards can be broadcast during a game. The database also stores the winning mobile telephone identification together with the game number, the date and time and the prize amount awarded.

In the case where an award is made to the winner of the game, for example a monetary award, the winner is required to call a short number and enter in a unique PIN which is typically the PIN used to unlock their mobile telephone but could be any PIN chosen by the winner. In the current version, this was implemented by having the user dial a short number, for example 9208, and

appending their PIN to the short number. If their PIN was 12345, the user would therefore dial 920812345.

The winner will be required to phone another short number and enter in the correct PIN before the prize is awarded to them. For example, a player will dial 920912345 to claim their prize.

The prize may be collected from a predetermined location where the game player presents their mobile telephone from which the winning answer or answers were entered.

The game may have different aspects, such as a sports bar game, a lottery type game, an open time game and a home time game.

In a sports bar game, establishments pay a monthly subscription to have the game questions fed to them. Players are able to play the game from a subscribed venue.

In a lottery type game, the game typically lasts one month with a different question set every day. This question is made available to the public via various communication networks, for example, the Internet, newspapers, radios and television or WAP, SMS or USSD delivery. Players are able to answer the question any time during the day using their mobile telephone 10.

The monthly prize money awarded is a larger amount of money, for example, in the order of R1 million. However, players will pay a premium tariff for each answer.

An open time game runs via an Internet Web site. The Web site provides the questions to the game, and a player is able to play whenever they choose or when the game is active.

questions an WEB answers when Handy

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Finally, a home time game is delivered via satellite and television to players in their homes. It will be appreciated that a home time game could be presented by a live presenter rather than merely having the questions appear in text form on the screen. The game would thus be more entertaining, and would essentially be a Television quiz game in which almost anyone in the country could take part using their mobile telephones.

Referring to Figure 3, the invention can also be implemented using an intermediate server 24. The call from the mobile telephone 10 of the game player is received at the intermediate server 24, which is typically located at the site of the mobile telephone network administrator. The intermediate server 24 sends a message over a second network 26 to the server 16.

In this embodiment, the server 16 is situated on a network 26, and the number dialled on the player's mobile telephone 10 comprises two parts. The first part indicates to the intermediate server 24 that the telephone number dialled corresponds to the address of the game server 16 on the network 26. This will typically be the Internet Protocol (IP) address of the game server 16. The second part of the number indicates the player's answer to the question currently being asked.

For example, the number 190 in 083 190 101 is used to logically route the call to the site of a game administrator 14, and the last digits are used by the server 16 to determine which answer the player has selected.

An example of this configuration of using an intermediate server to route the call is described in more detail in PCT patent application no. PCT/IB00/01736, the contents of which are incorporated herein by reference.

Figure 4 illustrates an example of the system of the present invention, particularly of the layout of the server 16.

The current system is implemented using Intel hardware, Windows NT Operating system and the TCP/IP protocol but the invention is obviously not limited to these protocols, operating systems or hardware.

A communication module in the form of an Interactive Voice Response (IVR) module 30 is connected to a traffic controller module 32 which routes requests received from the IVR module 30 to one of a plurality of application server modules 36. The IVR server 30 is essentially the intermediate server 24 illustrated in Figure 3. If the system is not implemented using the IVR server 30, the communication module is implemented using other hardware and/or software which enables the application server modules 36 to communicate with the mobile telephone communication network 12. The plurality of application server modules 36 are software applications which may reside on the same or separate pieces of hardware.

The application server modules 36 not only run the game application but also serve to control the two way communication between the IVR module 30 and a user mobile telephone, as is described in more detail in PCT patent application no. PCT/IB00/01736.

The applications server modules 36 are set up so that one of the application server modules 36 is designated as a master server and the others are designated as slave servers. The master server has the added function of controlling the question start and end times and informs the other servers when to start and when to stop receiving answers for a particular question. The master server also controls the processing, delivery and storage of the results of a game.

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In this example of the server architecture, the application server modules 36 transmits game results and control commands to a satellite game server 38 via TCP/IP which in turn then broadcasts content to the game venues 34 via satellite (not shown).

Game content is downloaded via a TCP/IP network from the application server modules 36 to the satellite game server 38 at the satellite broadcast studio. This content consists of game control and configuration files, and also of game data (such as the encrypted question database, tip messages and advertising content and media).

Once the satellite game server 38 is loaded, the configuration and control files are read and the game content is assembled accordingly. The process of assembly is controlled by configuration files which act on a predetermined schedule. The schedule determines the timing and also the sequence of events that will occur which will make up the visual aspect of the game.

According to the schedule, various screens (advertisements, tip messages, questions, etc.) will be displayed in sequence at and for predetermined times. At the completion of a game, the winner information - which includes the current league information - is downloaded via a TCP/IP network from the application server modules 36 to the satellite game server 38 at the satellite studio. Once the winner information has been received by the satellite game server 38, the data is read and screens are assembled to indicate the winner and also current league information and played out in real-time.

The application server modules 36 can dynamically control various aspects of the satellite game server 38 via a TCP/IP connection, in real-time. These aspects include control functions (starting, stopping and restarting the game at various points), the start times of the games, and various dynamic changes to visual content (tip messages, etc.), etc.

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The visual output of the satellite game server 38 is fed through a scan converter which converts the video output to be compatible with the satellite broadcast equipment. The games are broadcast on a pre-determined schedule which is contained in the configuration files that the application server 36, which acts as a master control server, transmits to the satellite game server 38 at the satellite broadcast studio. The application server modules 36 also synchronise the time clock on the satellite game server 38 so that they are using the same time references.

This aspect of the system is obviously specific to satellite or TV broadcast. For radio, the synchronisation between a pre-determined time of radio broadcast and the application server modules will operate to this pre-determined schedule. The same would apply for Print Media Competitions and WAP, SMS Question Delivery game variants.

After the game winner has been determined, an SMS server 44 is used to post SMS messages to the SMS server 46 of the telephone communications network 12, which sends the SMS message to the winning game player's mobile phone. Obviously, where another protocol such as WAP, for example, is used, the SMS server 44 would be replaced by a WAP server.

The current modules route messages to one another using TCP/IP, Windows API messaging.

The traffic controller module 32 (or more commonly referred to as a Load Balancer) and application server modules 36 implement some internal logic that maintains a state table of available resources to use e.g. which application server module 36 to use next. Once a choice has been made, a socket connection is established with the applicable module and maintained for the

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duration of the activity. When the activity is finished, the socket connection is broken and is available for the next connection.

The secure server 40 controls the associated secure database 42 where the data is kept which relates to the gaming questions and winner's details and PIN number, for example.

It will be appreciated that a number of firewalls can be put in place to protect the servers, for example, between the remote IVR 30 and the traffic controller 32.

Thus it will be appreciated that the present invention provides an alternative method and system for facilitating the playing of a game.

CLAIMS

1.   A method of facilitating the playing of a game, the method comprising the steps of:

        providing a game player with data representing at least one question and a plurality of possible answers, wherein one of the answers is the correct answer to the at least one question;

        allocating a different telephone number to each of the possible answers;

        prompting the game player to select an answer by dialling the telephone number allocated to that answer; and

        receiving a message at a server, the message identifying the game player and the number dialled by the game player.

2.   A method according to claim 1 further comprising the step of recording the time at which the message from the game player is received at the server.

3.   A method according to claim 2 wherein the method further comprises the step of allocating points to the game player depending on the answer selected and the amount of time taken to select the correct answer.

4.   A method according to any preceding claim wherein the question and answers are provided to the game player over a television network to at least one television receiver.

5.   A method according to any one of claims 1 to 3 wherein the question
      and answers are provided to the game player over a computer network
      to at least one computer.

6.   A method according to any one of claims 1 to 3 wherein the question
      and answers are provided to the game player over a radio network to at
      one radio receiver.

7.   A method according to any one of claims 1 to 3 wherein the question
      and answers are provided to the game player over a mobile
      communications network to at least one mobile phone as WAP, SMS or
      USSD messages.

8.   A method according to any one of claims 1 to 3 wherein the question
      and answers are provided to the game player over a magazine or other
      print media network.

9.   A method according to any one of the preceding claims wherein the
      method further comprises the step of identifying a mobile telephone
      account of the game player and debiting the telephone account of the
      game player for a predetermined amount to allow the participant to play
      the game.

10.   A method according to any one of the preceding claims wherein the
      winner of a game is notified by way of an SMS, WAP or USSD
      message sent to a mobile telephone of the winner.

11.   A method according to claim 10 wherein the winner of a game is
      awarded a prize, and wherein the winner is required to dial a
      predetermined number from their mobile telephone and enter a PIN

code which they will have to use to identify themselves in order to receive the prize.

12.   A method according to claim 11 wherein the prize is collected from a predetermined location where the game winner presents their mobile telephone from which the winning answer or answers were entered and uses the mobile telephone to dial a predetermined number and enter said PIN number before they are given the prize.

13.   A method according to claim 11 wherein the winner is requested to remotely dial a predetermined number from the same mobile telephone and enter said PIN number to claim their prize.

14.   A machine readable medium comprising instructions, which when executed by a machine, cause the machine to perform the method steps in anyone of claims 1 to 13.

15.   A system for facilitating the playing of a game, the system comprising:

a communications module for communicating with a telecommunications network;

a memory device having a plurality of game questions and their answers stored thereon; and

a processor adapted to receive a plurality of telephone calls from game players in response to a disseminated game question, wherein each one of the answers to the game question has a different telephone number associated therewith and wherein the processor is adapted to recognise which
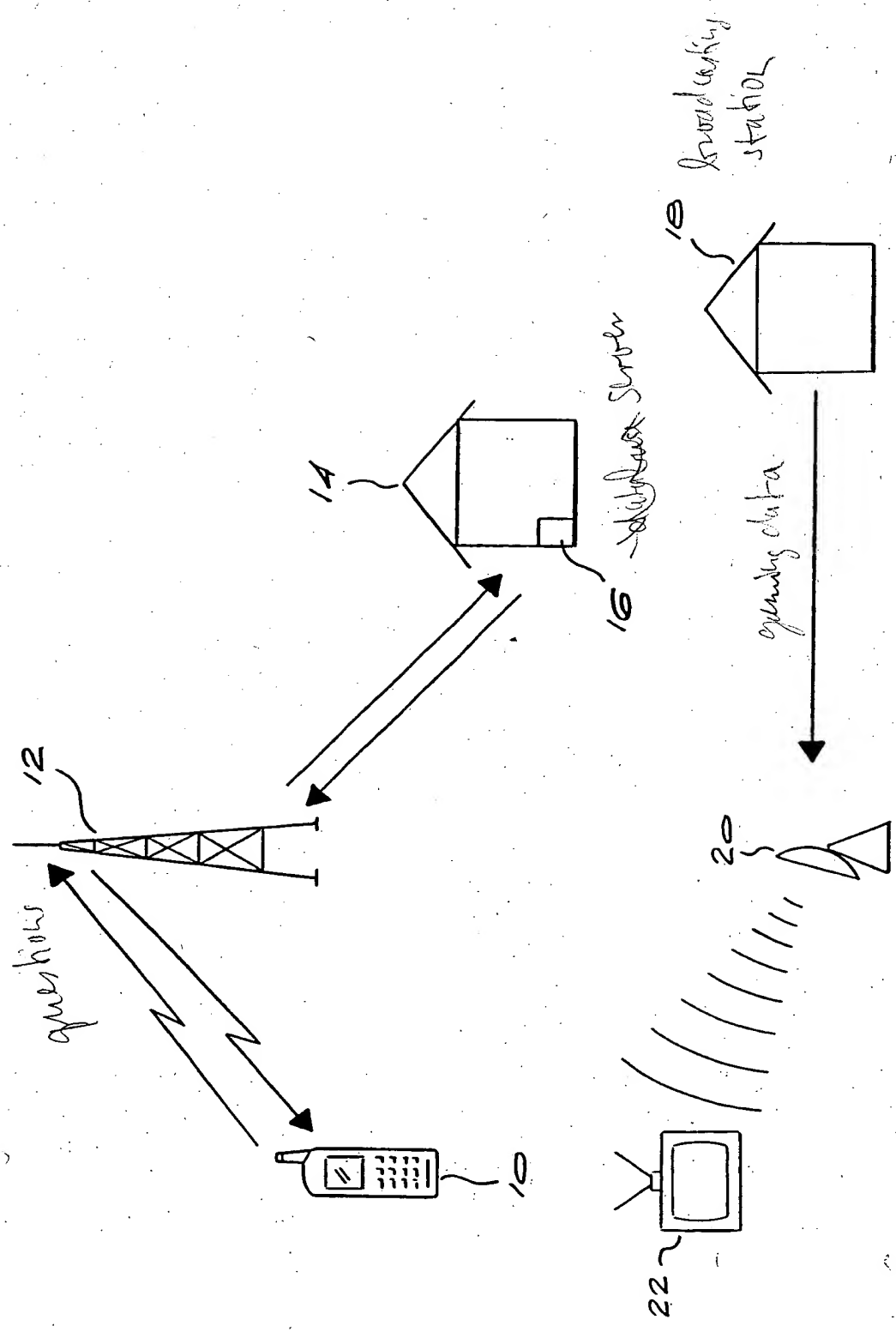
number each of the game players has dialled and thereby to determine which answer to the question they have selected.

16. A system according to claim 15 wherein the processor is further adapted to record the time of receipt of the telephone calls from the game players.

17. A system according to claim 14 or 15 wherein the questions and answers are broadcast via a network and wherein the processor is further adapted to control the broadcasting of questions via a broadcast medium.

18. A system according to claim any one of claims 14 to 17 wherein the processor is further adapted to allocate a valid time period to a question within which answers received from game players will be valid.

19. A system according to any one of claims 14 to 18 wherein the processor is further adapted to determine which game player has answered the question correctly within the shortest amount of time, and to allocate points to the game player.

20. A system according to claim 19 wherein the processor is further adapted to store the points allocated to game players, and to add up the total points for each game player after a question or a plurality of questions, which question or a plurality of questions comprise a game, and wherein the processor is further adapted to allocate a reward to the game player with the highest total number of points at the end of the game.

21. A method substantially as herein described and illustrated with reference to the accompanying drawings.

22.   A system substantially as herein described and illustrated with reference to the accompanying drawings.

FIG 1

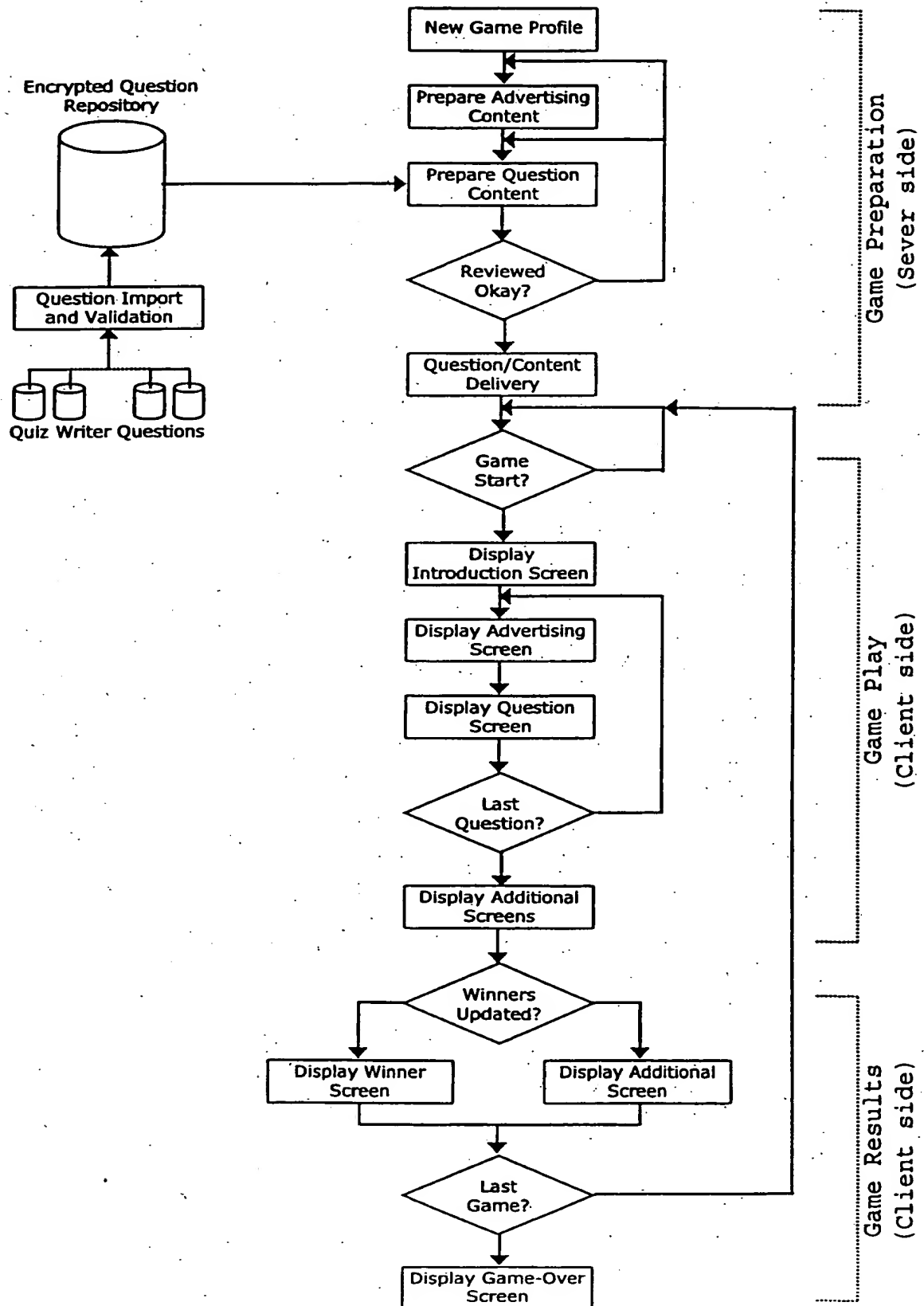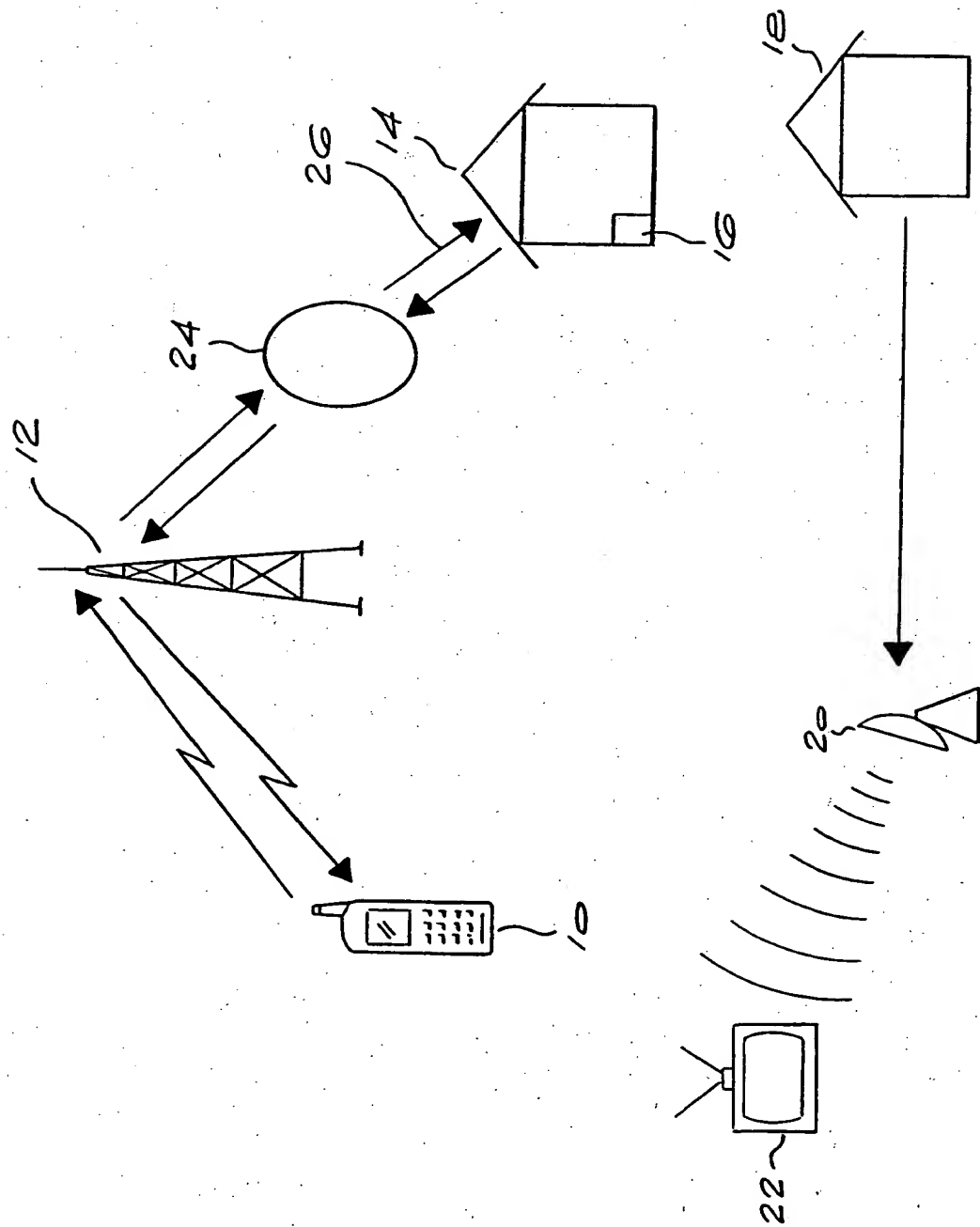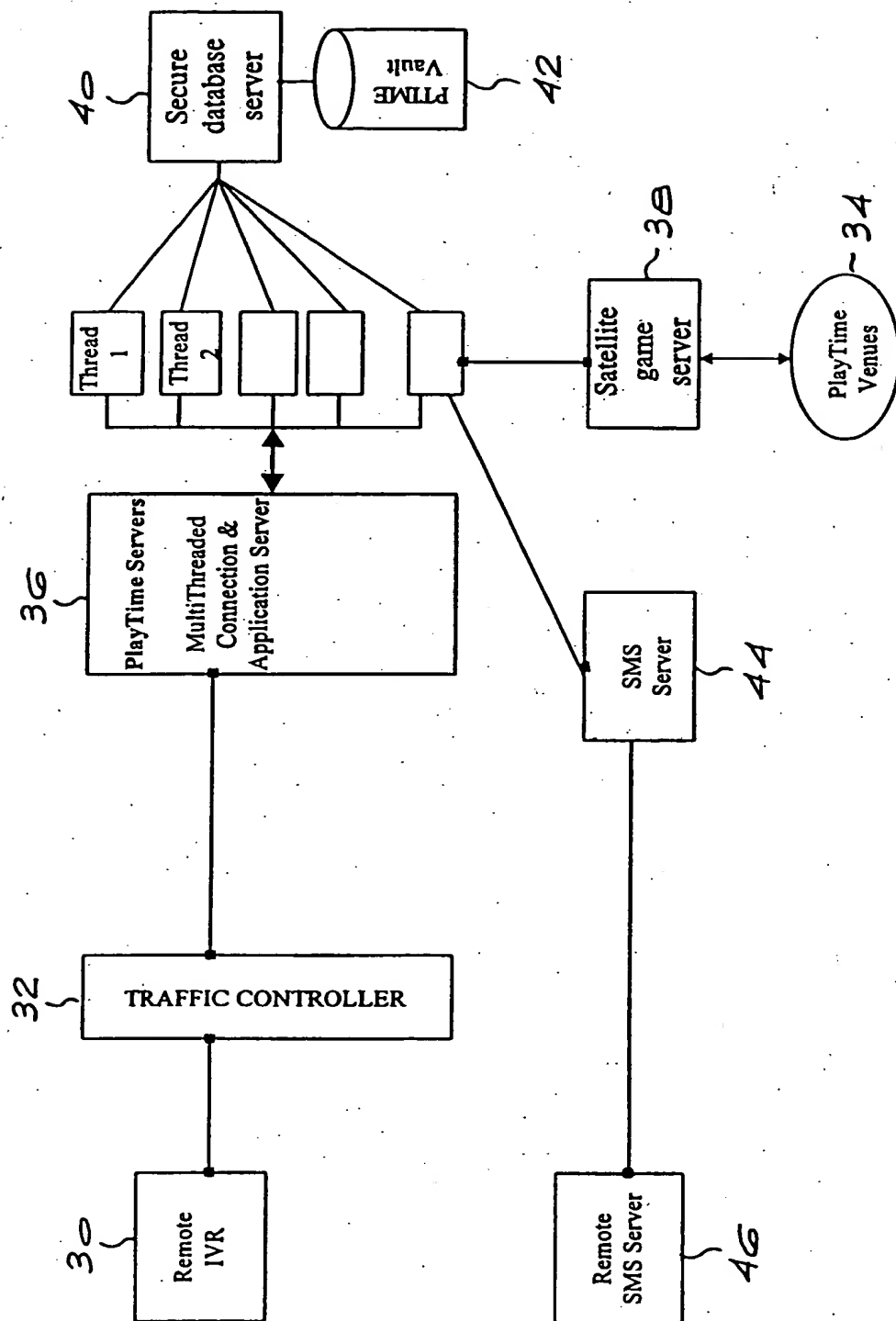broadcasting station 18

quality data

20

22

telephone server 14

16

12

questions

10

FIG 2

Fig 3

Fig 4

Secure database server _40_

PTIME Vault _42_

Thread 1 Thread 2

Satellite game server _38_

PlayTime Venues _34_

PlayTime Servers
MultiThreaded Connection & Application Server _36_

SMS Server _44_

TRAFFIC CONTROLLER _32_

Remote IVR _30_

Remote SMS Server _46_

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7   A63F9/18   A63F13/12   G07F17/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7   A63F   G09B   G07F   G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and. where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category°	Citation of document, with indication. where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 701 181 A (DUROUX LUCAS;DUROUX CHRISTIAN; GORETA LUCAS) 5 August 1994 (1994-08-05)	1-4, 6-10, 14-20
A	the whole document	11,12
X	US 5 108 115 A (BERMAN CARMEN ET AL) 28 April 1992 (1992-04-28) column 3, line 1 —column 4, line 26	1,4,14, 15,17
A	column 7, line 56 —column 9, line 37 claims 13-15	9
A	US 4 586 707 A (MCNEIGHT DAVID L ET AL) 6 May 1986 (1986-05-06) the whole document	1,4,6,8, 14,15,17

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[X] Further documents are listed in the continuation of box C.   [X] Patent family members are listed in annex.

° Special categories of cited documents :

'A' document defining the general state of the art which is not considered to be of particular relevance

'E' earlier document but published on or after the international filing date

'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

'O' document referring to an oral disclosure, use, exhibition or other means

'P' document published prior to the international filing date but later than the priority date claimed

'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

'X' document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

'Y' document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents. such combination being obvious to a person skilled in the art.

'&' document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 April 2001	25/04/2001

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340-2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Paraf, E

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category°	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 184 029 A (JPM) 17 June 1987 (1987-06-17) abstract page 1, line 23 - line 50	1-3,5, 14,15, 17-20
A	EP 0 474 923 A (SIGMA DELTA NV) 18 March 1992 (1992-03-18) abstract column 1, line 30 -column 2, line 55	1-4,6, 14-20
A	FR 2 775 550 A (SCHLUMBERGER SYSTEMS & SERVICE) 3 September 1999 (1999-09-03)	

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
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US 5108115	A	28-04-1992	US	5035422 A	30-07-1991
US 4586707	A	06-05-1986	GB	2112989 A	27-07-1983
GB 2184029	A	17-06-1987	NONE		
EP 0474923	A	18-03-1992	NONE		
FR 2775550	A	03-09-1999	NONE		